



Hydrops martii (Wagler, 1824) (Serpentes, Dipsadidae): first record in Amapá state, northern Brazil

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Abstract

Hydrops martii is a poorly known water snake of the tribe Hydropsini, which has been extensively found across northern South America. In this study, we present the first record in Amapá, based on a single specimen from the municipality of Macapá (0.0333, -51.0666), in the tropical moist broad-leaved forests of northern Brazil. This record extends the species range ca 195 km north from its nearest known record, on Marajó Island, in Pará, in the same ecoregion.

Key words

Hydropsini; geographical distribution; Amazon forest.

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Introduction

The tribe Hydropsini is characterized by a combination of an enlargement at the base of the adductor mandibulae externus superficialis muscle and viviparity. The tribe encompasses the genera *Helicops* Wagler, 1828, *Pseudoeuryx* Fitzinger, 1826 and *Hydrops* Wagler, 1830, with the latter being the type-genus (Zaher 1999, Zaher et al. 2009). The genus *Hydrops* is widely distributed in South America, and it has been recorded in Colombia, Venezuela, Guyana, French Guyana, Brazil, Peru, Bolivia, Paraguay, and Argentina (Roze 1957, Williams and Couturier 1984, Alvarez and Aguirre 1995, Albuquerque 2000, Scrocchi et al. 2005).

The *Hydrops* genus encompasses 3 species of water snakes, all of them small to medium-sized: *Hydrops caesurus* Scrocchi, Ferreira, Avila & Motte, 2005, *Hydrops martii* (Wagler, 1824), and *Hydrops triangularis* (Wagler, 1824). *Hydrops martii* is known from Brazil, Colombia, and Peru, and it can be distinguished from *H. caesurus* and *H. triangularis* based on the presence of 17 dorsal scale rows, while its congeners have 15 (Roze 1957, Albuquerque 2000, Scrocchi et al. 2005). Roze (1957) proposed 2 subspecies of *H. martii*: *Hydrops martii martii* (Wagler, 1824) and *Hydrops martii callostictus* Günther, 1868. Cunha and Nascimento (1993) considered *H. m. callostictus* as a synonym of *H. m. martii*, which was supported by Albuquerque (2000).



Figure 1. *Hydrops martii* (CHFURG 5698) from Macapá, Amapá, Brazil: **A.** Dorsal view. **B.** Ventral view.

Methods

While conducting fieldwork in the municipality of Macapá (0.0333, -051.0666, datum WGS84), Amapá, Brazil, we were made aware of an unidentified snake that was captured and killed by locals. We preserved the snake in 10% formalin, and conserved it in 75% ethanol to be deposited in the herpetological collection of Universidade Federal do Rio Grande (Rio Grande, Brazil) under the voucher number CHFURG 5698 (Fig. 1). The specimen was collected under a permit from IBAMA (Ministry of Environment, government of Brazil) number 43658. We identified the specimen as *H. martii*, which is presented here as the first record from Amapá (Fig. 2).

Results

The specimen was identified by morphological diagnosis based on literature (Albuquerque 2000, Scrocchi et al. 2005). Although *H. martii* might occur in sympatry with *H. triangularis* in several localities, both species can be easily distinguished due to their coloration pattern (black

bands margined by vertical narrow white bands in *H. martii* vs. absent vertical white bands in *H. triangularis*). In addition, *H. martii* is the sole member of the *Hydrops* genus that presents 17 rows of dorsal scales (15 in *H. caesurus* and *H. triangularis*). The specimen CHFURG 5698 is a subadult female, collected on 2 December 2016. It has a dark grey dorsum, with monadal black crossbands, that are margined by white narrow bands and diffuse red pigmentation. Its venter is white, with alternated black bands. The dorsum of head is dark grey, with a black nape collar, an incomplete white nuchal collar, and a complete white collar in the prefrontal region. Dorsal scale rows 17-17-17, ventrals 3+182, subcaudals in 68 pairs, supralabials 9/9, infralabials 8/8, temporals 1+1/1+2, snout-vent length 560 mm, tail length 130.3 mm, and head length 10.2mm.

Discussion

The specimen reported here is the first record of *H. martii* for Amapá, extending its known distribution 195 km (straight line) from the nearest known record, Marajó Island, Pará, Brazil. The new record is congruent with the previous records for the species, which were also located in tropical moist broad-leaved forests within the Amazon region (Roze 1957, Albuquerque, 2000), and contributes to an improved understanding of the geographic distribution of a poorly known species, while also filling a gap on its range.

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Authors' Contributions

RTP collected the specimen. OMEN, ADA, LMB, and DL wrote the text.

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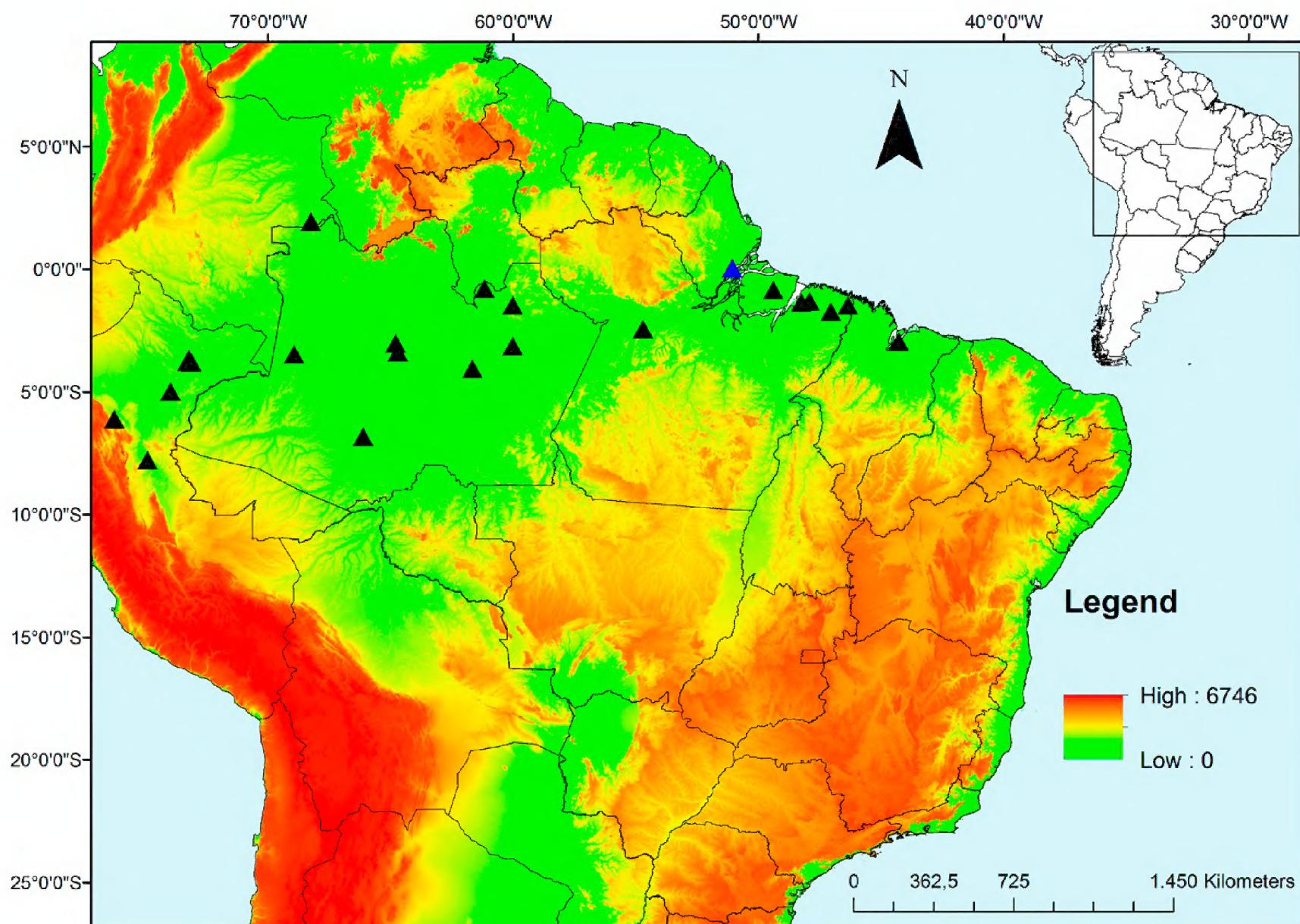


Figure 2. Updated distribution map of *Hydrops martii*. Blue triangle: new record; black triangles: literature records (Roze 1957, de Albuquerque 2000, Scrocchi et al. 2005).

Table 1. Geographic distribution of *Hydrops martii*.

| Country | State/department | Municipality (locality) | Latitude | Longitude | Source |
|----------|------------------|--|----------|-----------|----------------------|
| Brazil | Amazonas | (Boca de Tefé) | -03.0166 | -064.8000 | Roze (1957) |
| Brazil | Amazonas | Manaus | -03.1333 | -060.0166 | Roze (1957) |
| Brazil | Amazonas | Presidente Figueiredo | -01.4666 | -060.0166 | Albuquerque (2000) |
| Brazil | Amazonas | (Rio Purus) | -06.8333 | -066.1166 | Albuquerque (2000) |
| Brazil | Amazonas | Reserva de Desenvolvimento Sustentável Piagaçu-Purus (Rio Purus) | -04.0500 | -061.6666 | Waldez et al. (2013) |
| Brazil | Amazonas | São Paulo de Olivença (São João, Rio Solimões) | -03.4666 | -068.9333 | Roze (1957) |
| Brazil | Amazonas | Tefé | -03.3833 | -064.7000 | Roze (1957) |
| Brazil | Amapá | Macapá | 00.0333 | -051.0666 | This study |
| Brazil | Maranhão | (Província Maranhão, Rio Itapicuru) | -02.9500 | -044.2833 | Albuquerque (2000) |
| Brazil | Pará | Benevides | -01.3500 | -048.2500 | Albuquerque (2000) |
| Brazil | Pará | Capitão Poço | -01.7333 | -047.0500 | Albuquerque (2000) |
| Brazil | Pará | Castanhal | -01.3000 | -047.9166 | Albuquerque (2000) |
| Brazil | Pará | Ilha de Marajó | -00.8500 | -049.4000 | Roze (1957) |
| Brazil | Pará | Santarém | -02.4500 | -054.7000 | Albuquerque (2000) |
| Brazil | Pará | Viseu | -01.4666 | -046.3500 | Albuquerque (2000) |
| Brazil | Roraima | Rio Branco | -00.7833 | -061.1666 | Albuquerque (2000) |
| Colombia | Guainía | (Río Cairary, near Jurupary Waterfall) | 01.9333 | -068.2500 | Roze (1957) |
| Peru | Loreto | Iquitos | -03.7666 | -073.2666 | Roze (1957) |
| Peru | Loreto | Iquitos (Isla Lupuna) | -03.8000 | -073.1166 | Roze (1957) |
| Peru | Loreto | Iquitos (Río Itaya) | -03.7833 | -073.2500 | Roze (1957) |
| Peru | Loreto | Nanay | -03.6666 | -073.2333 | Roze (1957) |
| Peru | Loreto | Pampa Hermosa (Río Cushabatay) | -06.1166 | -076.2666 | Roze (1957) |
| Peru | Loreto | Requena | -04.9833 | -073.9666 | Roze (1957) |
| Peru | Ucayali | Roaboya (Río Ucayali) | -07.7833 | -074.9166 | Roze (1957) |